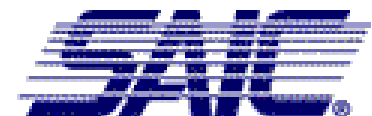


Reduction of Total Ownership Cost (RTOC) Toolkit

Bill Custer
custerw@saic.com



Science Applications International Corporation
An Employee-Owned Company

Requirements

- ★ Drive RTOC Decision Support to **Shop level**
 - Convergence: Needs, Data, and Change Agents
- ★ Develop Total Ownership Cost for Current Processes
- ★ Activity-Based Costs (ABC) Reveal Opportunities:
 - Standard Syntax for ABC Analysis
 - Accessible, Intuitive Tool for Alternative Analysis
- ★ Prioritize Investment Resources
 - Identify Benefits and Risks
 - Grow Consensus for Change

Measures of Merit

★ Cost Metrics

- Process Costs *by* Product Unit, Activity, Category, and Account
- Alternatives: Investment, Payback, ROI, Net Present Value

★ Non-Economic Change Benefits

- Hazardous Materials, Target Chemicals, and Waste Reductions
- Water & Energy Resources

★ Manage Operational Risks:

- Performance, Suitability
- User Support
- Hazard Risk

Cost Categories

★ Costs sorted by Category helps reveal Drivers

Hardware

Water

Software

Energy

Transportation

Waste

Installation

Wastewater

Labor

Services

Material

Facility

Input Functions

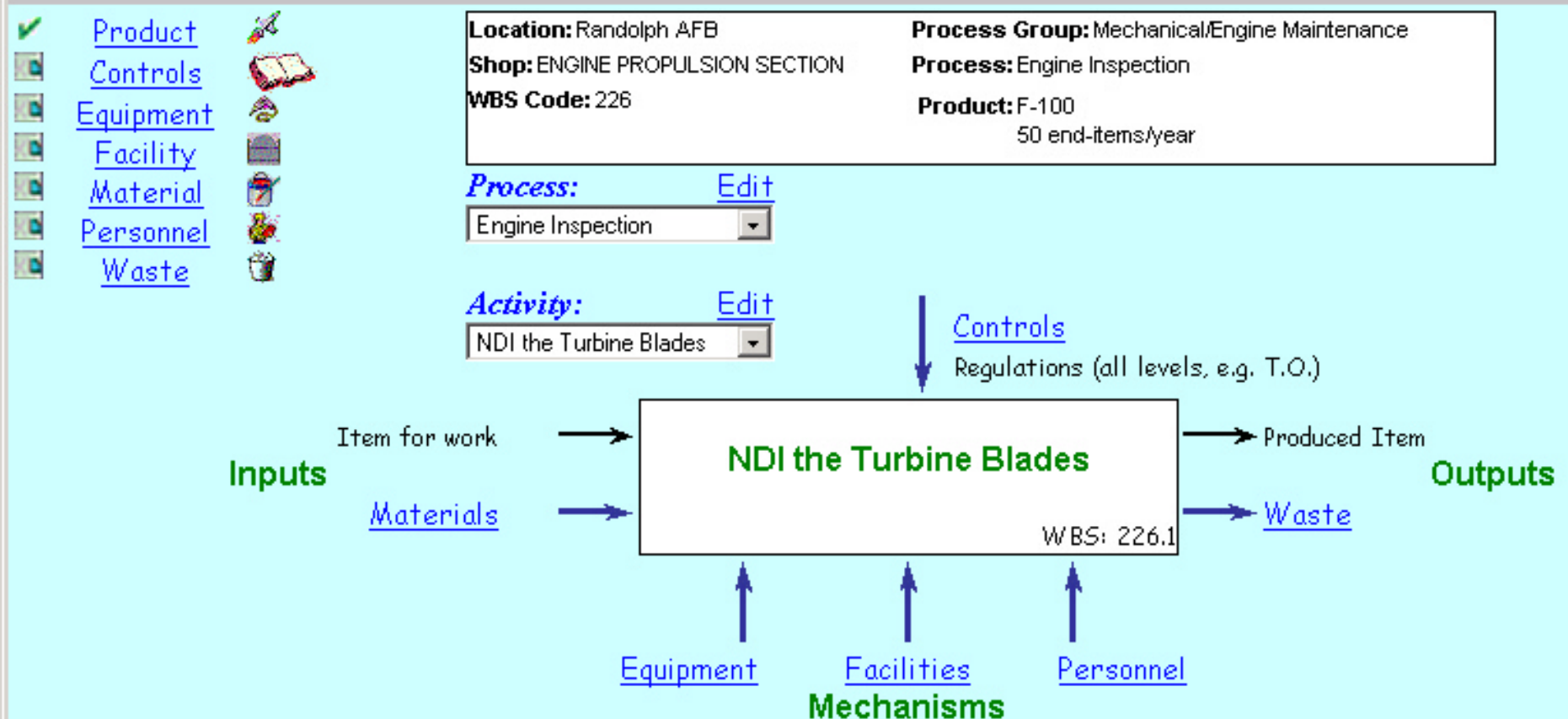
- ★ Select your Shop
- ★ Describe Process & Workload
- ★ Describe Activities & Insert Processes from Library
 - Indenture Sub-processes with their lower-level activities
- ★ Calculate the Work Breakdown Structure (WBS)
- ★ Assign Resources to each Activity:
 - Inputs, Outputs, Mechanisms, and Controls (IDEF-0 model)
- ★ Create new Cost Item resource data if needed
 - Becomes available to all on-line users

Activity-Based Costing: Standard Syntax

FIPS Pub 183 Integration Definition Function Model

Reduction of Total Ownership Cost

Home | [Identify Processes](#) | [Build Activities](#) | [Assign Resources](#) | [Generate Reports](#) | [Analyze Alternatives](#) | [Admin](#) | [Search](#) | [DBA](#)
[New Process](#) | [Edit Processes](#) | [Copy a Library Process](#)



Results: Summary

Resources:

Capital Cost: \$25,000

Operations Cost: \$30,410

Nonrecurring: \$5,030

Recurring: \$25,380

Product: Painted T-37s
100 end-items/yr

Unit Total Ownership Cost: \$304 /end-item

Other Resources Consumption:

Labor Hours (hr/yr): 2080

Energy (kwh/yr): 3000

Water (gal/yr): 100,000

Wastewater (gal/yr): 105,000

Environmental:

Hazardous Materials (lb/yr) 1208

Hazardous Waste (lb/yr): 2000

Solid Waste (lb/yr): 0

Air Emissions (lb/yr): 0

TRI Chemicals (lb/yr): 531

HAP Chemicals (lb/yr): 531

VOC Chemicals (lb/yr): 0



Results: Sorted Costs

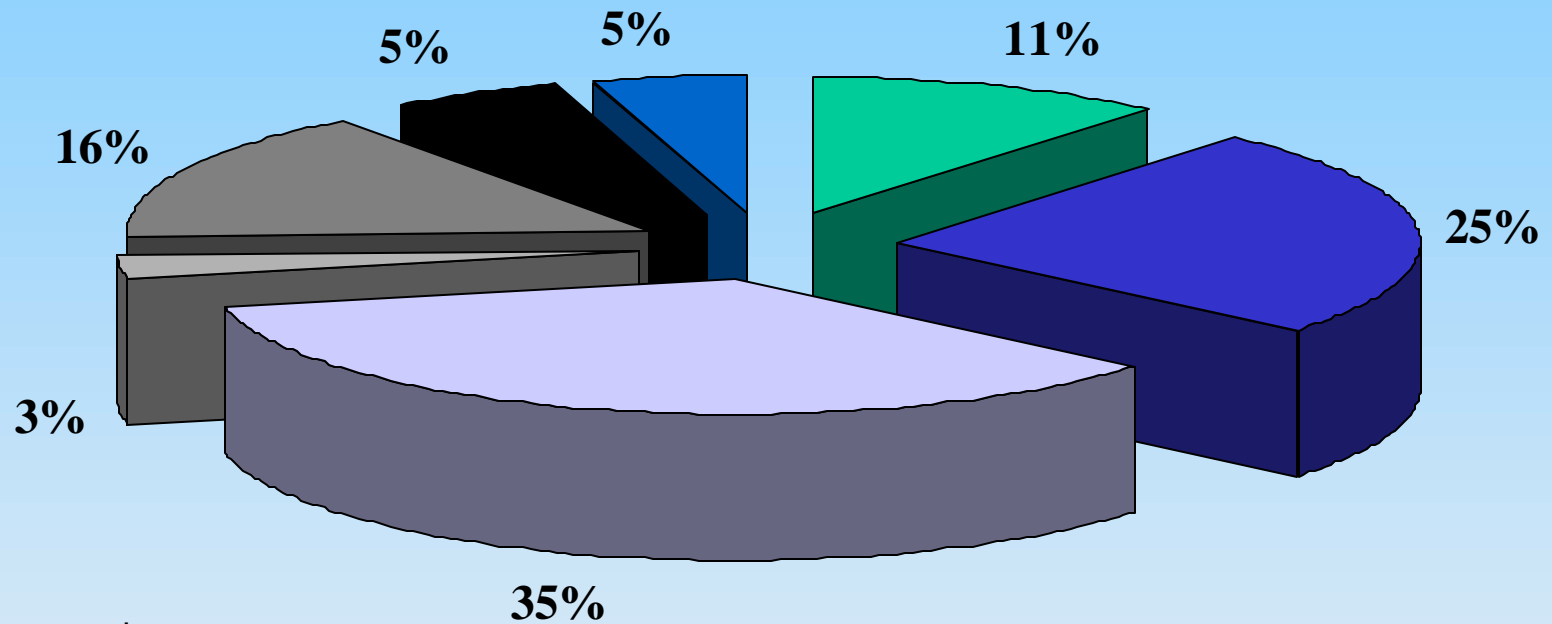
Costs by Activity

Activity Name	WBS	Direct	Indirect	Total	Per Unit
Clean	12.1	\$2,591	\$450	\$3,041	\$30
Mask	12.2	\$3,887	\$675	\$4,562	\$46
Paint	12.3	\$15,546	\$2,700	\$18,246	\$182
Prime	12.3.1	\$5,182	\$900	\$6,082	\$61
Topcoat	12.3.2	\$6,478	\$1,125	\$7,603	\$76
Clearcoat	12.3.3	\$3,887	\$675	\$4,562	\$46
Inspect	12.4	\$1,296	\$225	\$1,521	\$15
Stencil	12.5	\$2,591	\$450	\$3,041	\$30
Total		\$25,910	\$4,500	\$30,410	\$304








Results: Detail

Cost Category	Cost Item	WBS	Quantity (#)	Cost per unit (\$/unit)	Unit	Total Cost (\$)	Recurring Cost
Labor	Laborer	12.1	2080	\$25	hr	\$52,000	Yes
Labor	Safety Hygienist	12.1	50	\$75	hr	\$2,250	Yes
Facility	TRI Reporting	12.1	2	\$2,500	each	\$5,000	Yes
Services	Waste Disposal	12.1	50	\$1.00	lb	\$50	Yes
Energy	Air Agitation Pump	12.1	7000	\$0.05	kwh	\$35	Yes
Energy	Electric Heater	12.1	10000	\$0.05	kwh	\$50	Yes
Water	Water for Rinse Tanks	12.1	800,000	\$0.00	gal	\$280	Yes

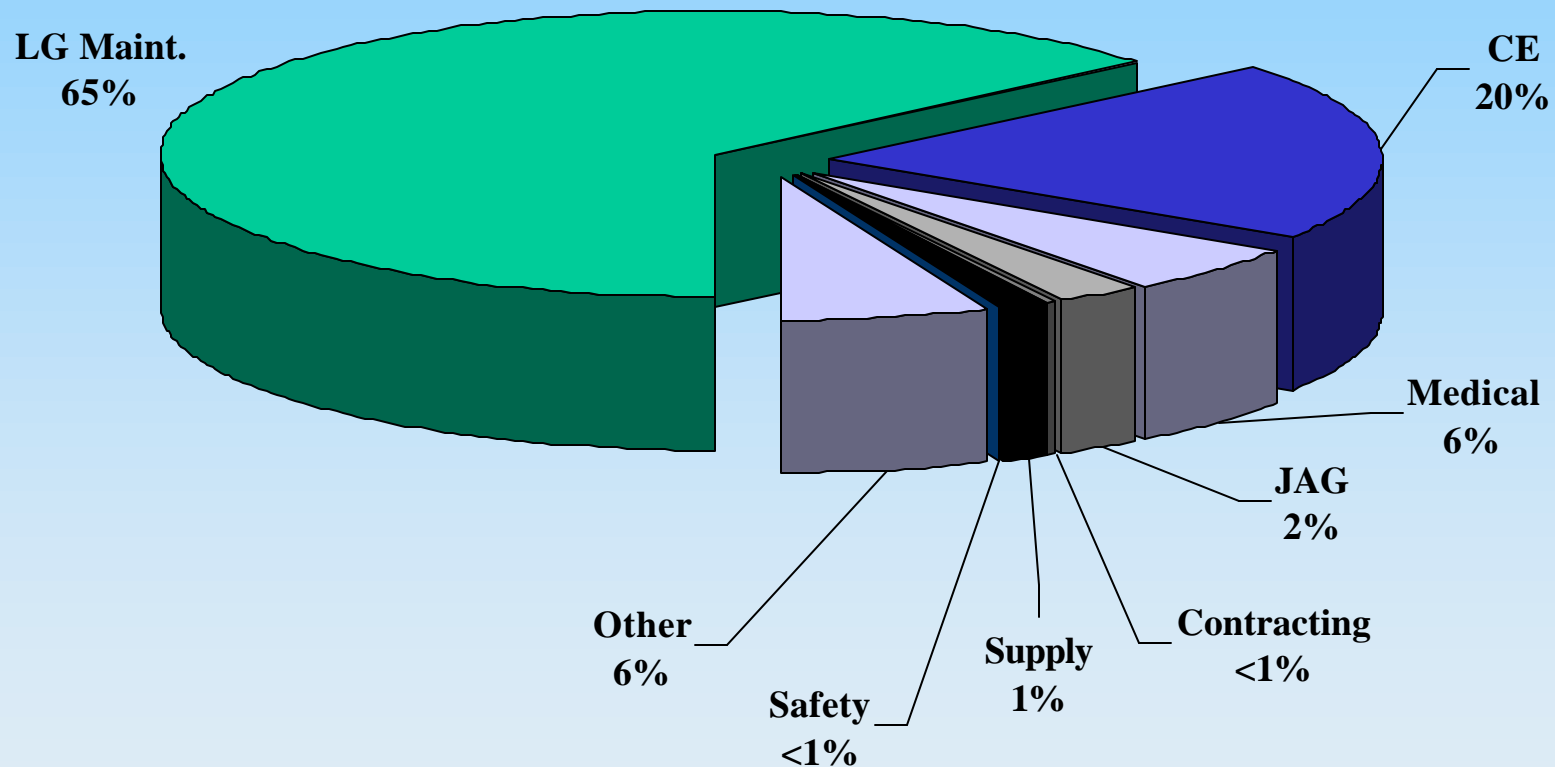
Charts: Total Ownership Cost



Unit Cost: \$ 15,658

- | | |
|---|--|
|  Manage Depaint Shop (11%) |  Prepare Aircraft for Depaint (25%) |
|  Blast Aircraft (35%) |  Clean Aircraft (3%) |
|  Undo Aircraft Prep (16%) |  Gather/Dispose of Spent Material (5%) |
|  Overhead Not Assigned to Activities (5%) | |

Charts: by Account

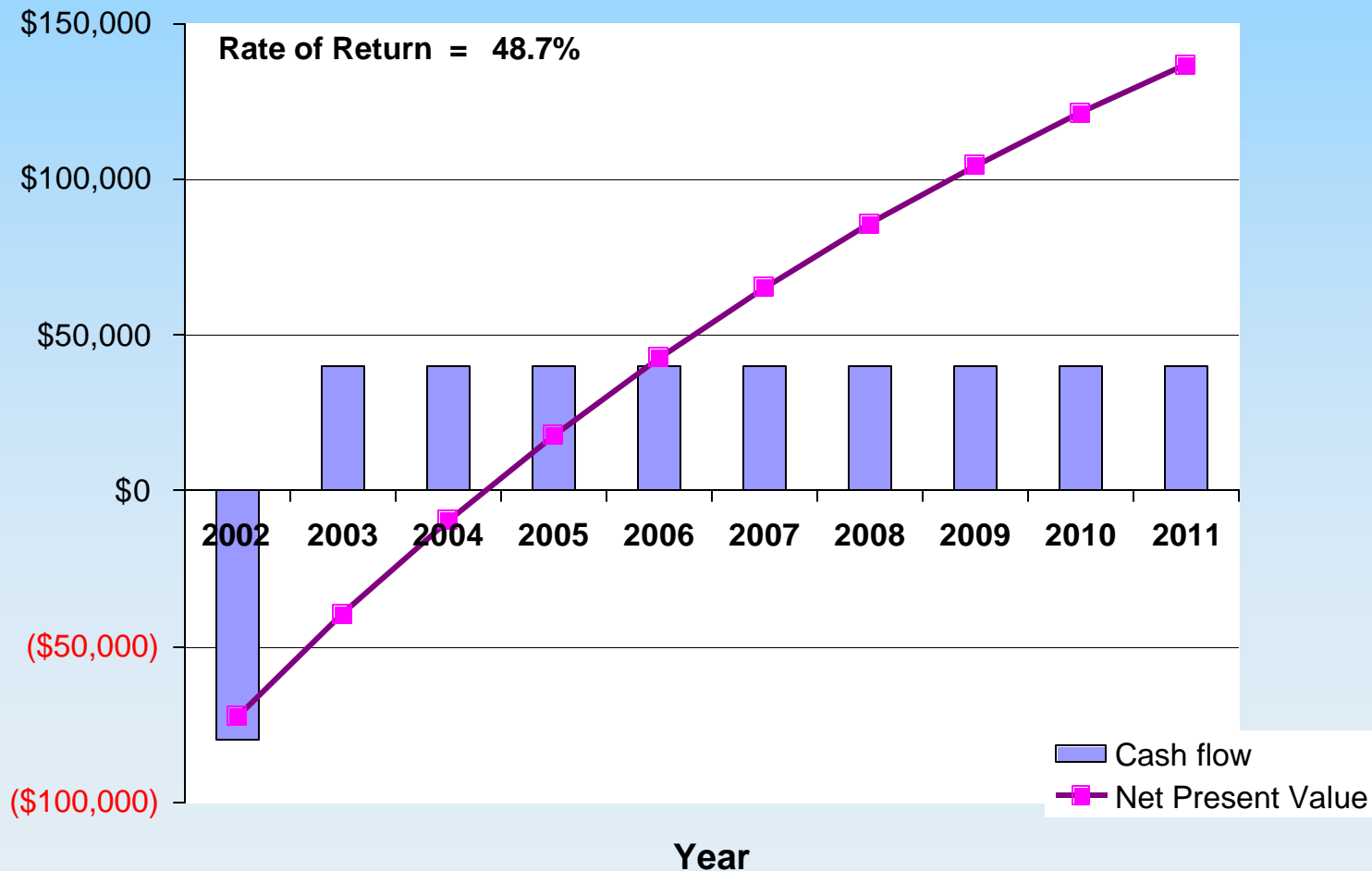


■ LG Maint. ■ CE ■ Medical ■ JAG ■ Contracting ■ Supply ■ Safety ■ Other



Charts: Cash Flows for Alternatives

Cash Flow Chart



Next Module: Manage Operational Risks



Improving the Risk Outlook

- ★ Assess the Risk of Successful Change
- ★ Performance and Suitability
 - How will change meet the needs of operators and stakeholders?
- ★ Hazard Risk
 - Probability and Severity Matrix for Activities
- ★ Grow Consensus

Performance and Suitability Metrics

★ Performance

- Meets Specifications
- Reliable & Maintainable

★ Customer Support

- Task Complexity
- Cycle Time

★ Implementation

- Availability and Lead-time
- Regulatory Compliance

Hazard Risk Metrics

			Probability				
			Frequent	Likely	Occasional	Seldom	Unlikely
			A	B	C	D	E
S E V E R I T Y	Catastrophic	I	Extremely				
	Critical	II	High	High			
	Moderate	III		Medium			
	Negligible	IV					Low
			Risk Levels				

Thanks for your time!!

Questions?

Feel free to call:

Bill Custer

703-318-4631

Custerw@saic.com



Science Applications International Corporation
An Employee-Owned Company